Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for controlling one or more electronic devices through a host device, the method comprising:

establishing frequency-based, real-time electronic communications over a network between the host device and one or more controlled devices~~, wherein electronic communication between the host device and each controlled device always occurs at an assigned control frequency~~;

assigning each controlled device ~~the~~ a control frequency specific to that controlled device;

executing control software in the host device to generate control input parameters for the one or more controlled devices; ~~and~~

sending the control input parameters to the one or more controlled devices, wherein the control input parameters for a particular controlled device are always sent to that controlled device at the assigned control frequency for that controlled device; and

ensuring that the sum of all the control frequencies for the one or more controlled devices does not exceed the network's bandwidth, so that electronic communication with each controlled device always occurs at the assigned control frequency for that controlled device, thereby facilitating real-time communication with that controlled device;

wherein the one or more controlled devices do not include a hardware controller for generating the control input parameters, but instead receive the control input parameters from the host device via the frequency-based, real-time electronic communications.

2. (Previously Presented) The method of claim 1, further comprising receiving, at the host device, output parameters from the controlled devices in response to the control input parameters.

3. (Cancelled)

4. (Previously Presented) The method of claim 1, wherein the control frequency is assigned using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^N, further comprising establishing real-time electronic communications with a plurality of controlled devices and assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer.

5. (Original) The method of claim 4, wherein N is independently determined for each controlled device of the plurality of the controlled devices.

6. (Previously Presented) The method of claim 4, wherein the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of each controlled device.

7. (Original) The method of claim 1, further comprising initiating a control loop process on the host device when electronic communication is established with a controlled devices.

8. (Original) The method of claim 1, further comprising accessing the host device from a remote computing device via the Internet.

9. (Previously Presented) The method of claim 8, further comprising providing information relating to the controlled devices to a user at the remote computing device.

10. (Original) The method of claim 9, further comprising receiving user input at the host device from the user at the remote computing device, wherein the input relates to the controlled devices.

11. (Currently Amended) A computing device configured for controlling electronic devices, the computing device comprising:

a processor;

memory in electronic communication with the processor; and

executable instructions executable by the processor, wherein the executable instructions are configured for ~~to implement a method comprising~~:

establishing frequency-based, real-time electronic communications over a network between the host device and one or more controlled devices~~, wherein electronic communication between the host device and each controlled device always occurs at an assigned control frequency~~;

assigning each controlled device ~~the~~ a control frequency specific to that controlled device;

executing control software in the host device to generate control input parameters for the one or more controlled devices; ~~and~~

sending the control input parameters to the one or more controlled devices, wherein the control input parameters for a particular controlled device are always sent to that controlled device at the assigned control frequency for that controlled device; and

ensuring that the sum of all the control frequencies for the one or more controlled devices does not exceed the network's bandwidth, so that electronic communication with each controlled device always occurs at the assigned control frequency for that controlled device, thereby facilitating real-time communication with that controlled device;

wherein the one or more controlled devices do not include a hardware controller for generating the control input parameters, but instead receive the control input parameters from the host device via the frequency-based, real-time electronic communications.

12. (Currently Amended) The computing device of claim 11, wherein the executable instructions are also configured for ~~method further comprises~~ receiving, at the computing device, output parameters from the controlled devices in response to the control input parameters.

13. (Cancelled)

14. (Currently Amended) The computing device of claim 11, wherein the control frequency is assigned using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^N, wherein the executable instructions are also configured for ~~method further comprises~~ establishing real-time electronic communications with a plurality of controlled devices and assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer.

15. (Original) The computing device of claim 14, wherein N is independently determined for each controlled device of the plurality of controlled devices.

16. (Previously Presented) The computing device of claim 14, wherein the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device.

17. (Currently Amended) The computing device of claim 11, wherein the executable instructions are also configured for ~~method further comprises~~ initiating a control loop process on the computing device when electronic communication is established with a controlled device.

18. (Currently Amended) The computing device of claim 17, wherein the executable instructions are also configured for ~~method further comprises~~ initiating a torque/current control loop process at a microcontroller on the controlled device when the controlled device comprises a motor.

19. (Currently Amended) The computing device of claim 11, wherein the executable instructions are also configured for ~~method further comprises~~ accessing the computing device from a remote computing device via the Internet.

20. (Currently Amended) The computing device of claim 19, wherein the executable instructions are also configured for ~~method further comprises~~ providing information relating to the controlled devices to a user at the remote computing device.

21. (Currently Amended) The computing device of claim 20, wherein the executable instructions are also configured for ~~method further comprises~~ receiving user input at the computing device from the user at the remote computing device, wherein the input relates to the controlled devices.

22. (Currently Amended) A computer-readable medium for storing program data, wherein the program data comprises executable instructions for ~~implementing a method in a computing device for controlling electronic devices, the method comprising~~:

establishing frequency-based, real-time electronic communications over a network between the host device and one or more controlled devices~~, wherein electronic communication between the host device and each controlled device always occurs at an assigned control frequency~~;

assigning each controlled device ~~the~~ a control frequency specific to that controlled device;

executing control software in the host device to generate control input parameters for the one or more controlled devices; ~~and~~

sending the control input parameters to the one or more controlled devices, wherein the control input parameters for a particular controlled device are always sent to that controlled device at the assigned control frequency for that controlled device; and

ensuring that the sum of all the control frequencies for the one or more controlled devices does not exceed the network's bandwidth, so that electronic communication with each controlled device always occurs at the assigned control frequency for that controlled device, thereby facilitating real-time communication with that controlled device;

wherein the one or more controlled devices do not include a hardware controller for generating the control input parameters, but instead receive the control input parameters from the host device via the frequency-based, real-time electronic communications.

23. (Currently Amended) The computer-readable medium of claim 22, wherein the executable instructions are also configured for ~~method further comprises~~ receiving, at the computing device, output parameters from the controlled device in response to the control input parameters.

24. (Cancelled)

25. (Currently Amended) The computer-readable medium of claim 22, wherein the control frequency is assigned using a 2^N time slicing algorithm, where N is a non-negative integer, wherein each control frequency that is assigned has a value of 2^N, wherein the executable instructions are also configured for ~~method further comprises~~ establishing real-time electronic communications with a plurality of controlled devices and assigning a discrete control frequency for each controlled device using the 2^N time slicing algorithm, where N is a non-negative integer.

26. (Original) The computer-readable medium of claim 25, wherein N is independently determined for each controlled device of the plurality of controlled devices.

27. (Previously Presented) The computer-readable medium of claim 25, wherein the 2^N time slicing algorithm comprises assigning the control frequency at 2^N hertz, where N is a non-negative integer that will yield a discrete control frequency in proximity to a preferred control frequency of the controlled device.

28. (Currently Amended) The computer-readable medium of claim 22, wherein the executable instructions are also configured for ~~method further comprises~~ initiating a control loop process on the computing device when electronic communication is established with a controlled device.

29. (Currently Amended) The computer-readable medium of claim 22, wherein the executable instructions are also configured for ~~method further comprises~~ accessing the computing device from a remote computing device via the Internet.

30. (Currently Amended) The computer-readable medium of claim 29, wherein the executable instructions are also configured for ~~method further comprises~~ providing information relating to the controlled devices to a user at the remote computing device.

31. (Currently Amended) The computer-readable medium of claim 30, wherein the executable instructions are also configured for ~~method further comprises~~ receiving user input at the computing device from the user at the remote computing device, wherein the input relates to the controlled devices.